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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,535	03/31/2004	Daewoong Suh	042390.P18729	9982

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EXAMINER

LAM, CATHY FONG FONG

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,535

Applicant(s)

SUH, DAEWOONG

Examiner

Cathy Lam

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 25-36 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-7, 9, 10, 25-29, 31 and 34 is/are rejected.
7) ☒ Claim(s) 8, 30, 32, 33, 35 and 36 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. In view of the amendment and remarks filed on January 30th 2006, the indicated allowability of claims 4 & 9 are withdrawn in view of the newly discovered reference(s) to Kobayahsi et al, Park et al, Schimweg, etc. Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claims 8, 25, 28-33, 35-36 are objected to because of the following informalities: Claims 8, 29, 30, 32 and 33, applicant is suggested to delete "(Ni-Co)", "(Ni-Mn)", "(Ni-Fe)" and "(PTFE)" from the claims, as they are redundant

In claim 30, line 3 "an nickel layer" should be -- a nickel layer --.

In claims 25 & 28, line 5, applicant is suggested to add -- is -- before "to increase".

In claim 31, line 1, applicant is suggested to delete "deposited over the base portion".

In claim 35, applicant is suggested to delete on line 1 "comprises a composite including" and insert -- further comprises --.

In claim 36, line 1 applicant is suggested to delete "wherein the nickel" and on line 2 delete "deposited over the base portion".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

On line 1, "the nickel layer" lacks antecedent basis.

Claim Rejections - 35 USC § 103

4. Claims 1-7, 9-10, 25-29, 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al (US 6878461) or Park et al (US 5824367) in view of Isono et al (US 5458985).

Kobayashi discloses a surface treated structure comprised of a substrate (2), a metal plating layer (or an anti-diffusive plating layer) (3), a lubrication plating layer (5), a joining layer (6) and a noble metal plating layer (7) (Fig. 2).

The substrate (2) can be a metal or a metal alloy, e.g. Fe or its alloy (col 3 L 13-16). The metal plating layer (3) can be a (pure) nickel layer or a Ni alloy layer (col 3 L 25-28). In view of this, the examiner is taking the position that both substrate (2) and the metal plating layer (3) resemble the present invention as a substrate of a nickel alloy layer (Fig. 4 without metal plating layer (3)) or a pure nickel layer (Fig. 3 with metal plating layer (3)).

The lubrication plating layer (5) can be Ni-P or Ni-B is plated onto the substrate (col 3 L 58-61). Fine particles such as PTFE, carbon or SiC are dispersed into the lubrication plating layer (5) (col 3 L 46-54). The total thickness of the lubrication plating layer (5) is from 0.01-20 μm but more preferably 0.2-1.0 μm .

Kobayashi teaches that Ni alloy such as Ni-P and Ni-B are conventionally used for the lubrication plating layer (col 3 L 58-61).

Park also teaches a hard tool structure that is plated with a nickel layer. The hard tool structure is comprised of a nickel substrate (col 2 L 57-60).

The substrate is plated with a Ni-P layer or a Ni-B layer which contains diamond particles (col 3 L 1-5 & L 24-26).

Both Kobayashi and Park teach a nickel substrate that is coated with a Ni-P or Ni-B layer wherein the Ni-P and Ni-B layers contains diamond (or carbon) particles, SiC or PTFE particles.

The prior art however are silent about having any patterns on their structure surfaces.

Isono discloses a tool (or a stamper) comprised of a base layer (8) and a metal composite (3,4,5) over the base layer (8).

The base layer (8) that is made from the electroformed layer (7) is formed of nickel (col 5 L 39-43). The metal composite is made of a plurality of metal layers such as nickel/tantalum or chrome/nickel layer system (col 3 L 42-46 & col 4 L 4-6).

Isono's stamper is used in making a plastic substrate having a groove pattern (col 1 L 11-14).

In view of the prior art teaching, it would have been obvious to form a tool having a surface pattern, the tool is form from a nickel or nickel alloy substrate and is coated with abrasive particles filled Ni-P or Ni-B plating layer because a filled Ni-P and/or Ni-B layer is conventionally used over a tool surface.

Allowable Subject Matter

5. Claims 30, 35-36 would be allowable if rewritten or amended to overcome the objections, set forth in this Office action.

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6. Claims 8, 32, 33 are objected to as being dependent upon a rejected base claim, but would be allowable if incorporate into independent claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538.

The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Cathy Lam
Primary Examiner
Art Unit 1775

cfl
March 28, 2006